

**REMARKS**

Please reconsider the application in view of the following remarks. Applicants thank the Examiner for carefully considering this application. Applicants further thank the Examiner for the courtesies extended during the examiner interview of April 8, 2004.

**Examiner Interview**

An Examiner Interview was conducted between Applicants' attorney and Examiner Jennifer Gay on April 8, 2004. During the interview, an agreement was reached that the arguments submitted by the Applicants were persuasive and demonstrated that the pending claims of the application were patentable over the cited prior art.

In particular, the Examiner agreed that the claimed limitations regarding the disposition of a relief groove in a mounting pad of a blade distinguished over a groove disposed in a pin according to U.S. Patent No. 4,787,466, issued to Tomlinson et al. ("Tomlinson"). The arguments submitted for the Examiner's consideration, and upon which the Examiner based her decision regarding patentability, are discussed in detail below.

**Disposition of Claims**

Claims 5-11 are pending in this application. Claims 5, 8 and 11 are independent. The remaining claims depend, directly or indirectly, from claims 5 and 8.

### Rejection(s) under 35 U.S.C § 103

Claims 5, 7, 8, 10 and 11 stand rejected under 35 U.S.C. § 103 as obvious over U.S. Patent No. 6,006,846, issued to Tibbitts et al. (“Tibbitts”) in view of Tomlinson. This rejection is respectfully traversed.

A drill bit according to the embodiments of claims 5, 7, 8, 10, and 11 comprises a mounting pad having a relief groove (26 in Fig. 3) *formed in the bit body* under a position of a diamond table of a cutting element. Claims 5 and 8 further require that the relief groove extends back from an outer surface of the blade at least about 40 percent of that portion of a thickness of the diamond table that does not extend past the outer surface. The formation of such a groove at this location with respect to the diamond table advantageously provides stress relief between the diamond table and bit body, while obviating the need to dispose the diamond table so that it protrudes beyond the bit body.

As noted by the Examiner, Tibbitts fails to disclose or suggest a mounting pad including a relief groove that extends back from an outer surface of the blade at least about 40 percent of that portion of a thickness of the diamond table that does not extend past the outer surface. Tomlinson also fails to disclose or suggest such a groove. In contrast to the present invention, *Tomlinson deals only with the configuration of a cutter, or “pin”* and makes no reference to any type of mounting pad formed in a blade of a drill bit, as required by the instant claims. The abrasive compact portion of the Tomlinson pin lies wholly *within the side surface 16 of the elongate pin* (Col. 2, ll. 32-33) and the groove formed in the Tomlinson pin is to “*prevent the abrasive compact coming into contact with the elongate pin 10*” (Col. 2, ll. 34-35). Furthermore, the depth of the groove formed in the Tomlinson pin “is greater than the width of the compact” (Col. 2, ll.

42-43).

Applicants agree with the Examiner that Tomlinson does in fact disclose a groove. Applicants disagree, however, that Tomlinson discloses a groove *in the bit body* as required by the instant claims. Applicants fail to discern any disclosure in Tomlinson that supports the Examiner's statement that Tomlinson teaches "a groove formed underneath the diamond table and in the portion of the *drill bit/cutter* that the diamond table is secured to" (p. 4 of the Office Action). First, Tomlinson does not teach that the diamond table is secured to a bit body at all, only to a composite abrasive compact 22 located within the recess 20 of a *pin* (Col. 2, ll. 22-24). Secondly, Tomlinson does not disclose or suggest any configuration by which the disclosed pin might be mounted to a drill bit, stating only that such a pin might be used with abrasive tools such as drill bits and mining picks (Col. 1, ll. 64-65). Therefore, Tomlinson completely fails to disclose or suggest a mounting pad, much less any particular configuration of a mounting pad, such as one having a relief groove formed therein, as claimed.

Although the Examiner states that Tomlinson is relied upon only for the disclosure of a relief groove, the instant claims require a *particular configuration of a relief groove*, in particular, one that is *disposed in a mounting pad formed in a bit body*. Nothing in either Tibbets or Tomlinson suggests or discloses such a configuration. Accordingly, because both Tibbets and Tomlinson fail to disclose or suggest a mounting pad and relief groove *in a bit body*, withdrawal of this rejection is respectfully requested.

Claims 6 and 9 stand rejected under 35 U.S.C. § 103 as obvious over Tibbitts in view of Tomlinson, and further in view of U.S. Patent No. 6,220,117, issued to Butcher ("Butcher"). This rejection is respectfully traversed.

As previously stated, both Tibbitts and Tomlinson fail to disclose or suggest a relief groove in a mounting pad *of a bit body*, as required by claims 5 and 8. Butcher also fails to disclose or suggest such a groove. Accordingly, claims 6 and 9, which depend from independent claims 5 and 8, are patentable over this combination of references for at least the same reasons stated above. Therefore, withdrawal of this rejection is respectfully requested.

### **Conclusion**

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 05516.084001).

Respectfully submitted,

Date: 5/12/04

*Jeffrey S. Beraya* <sup>45,925</sup>  
~~Jonathan P.~~ Osha, Reg. No. 33,986  
Osha & May L.L.P.  
One Houston Center, Suite 2800  
1221 McKinney Street  
Houston, TX 77010  
Telephone: (713) 228-8600  
Facsimile: (713) 228-8778

64931\_2